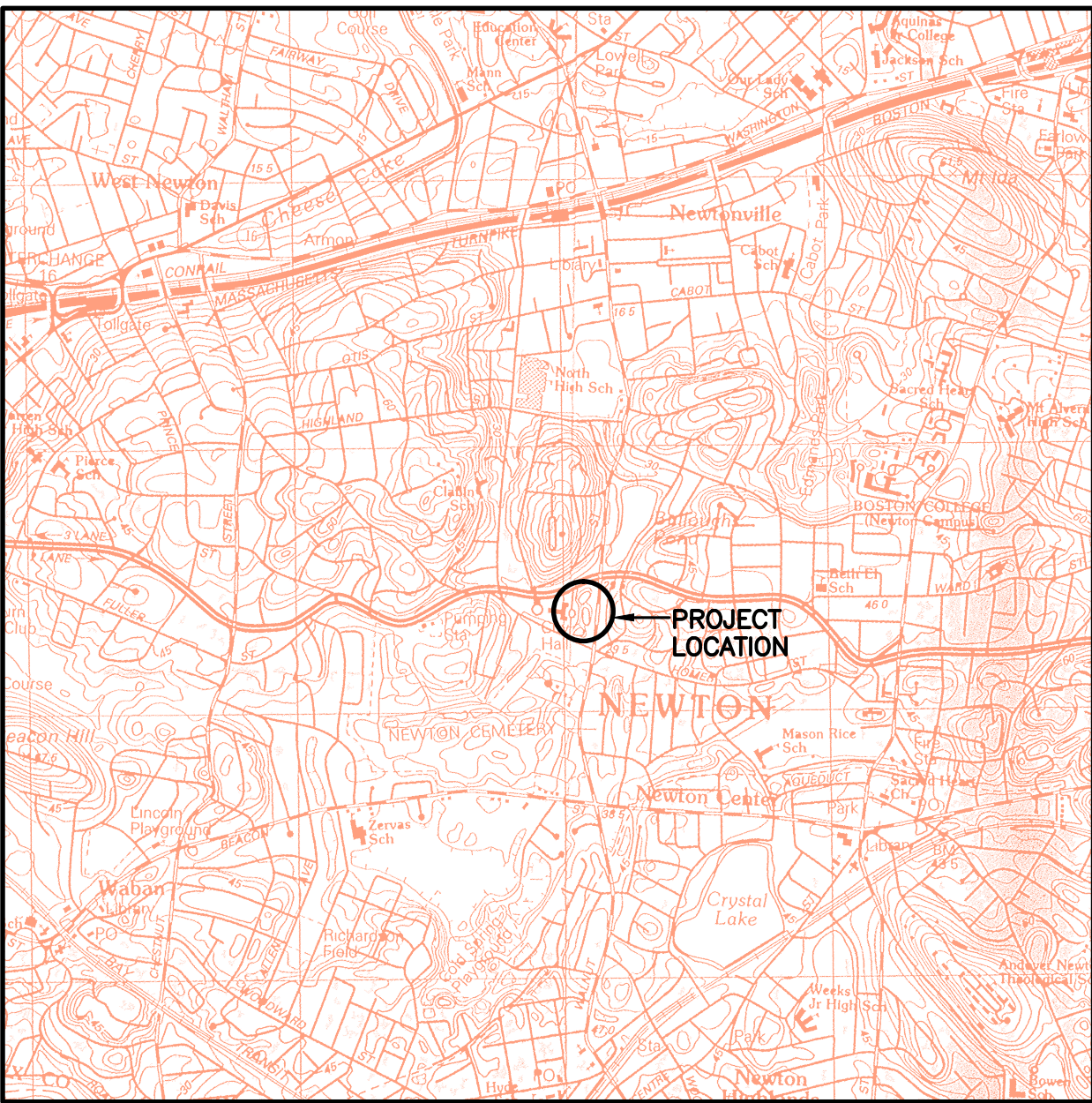


SEDIMENT REMOVAL AND MAINTENANCE  
OF  
CITY HALL PONDS  
NEWTON, MASSACHUSETTS  
March, 2011

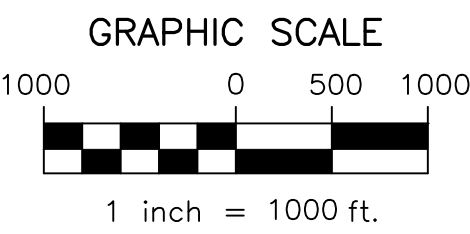
ISSUED FOR CONSTRUCTION SEPTEMBER 29, 2011

DRAWING LIST:

- 1 COVER SHEET
- 2 EXISTING CONDITIONS PLAN
- 3 SEDIMENT & EROSION CONTROL PLAN
- 4 POND RESTORATION PLAN
- 5 POND CROSS SECTIONS
- 6 POND PROFILES
- 7 CULVERT CLEANING PLAN & DETAILS



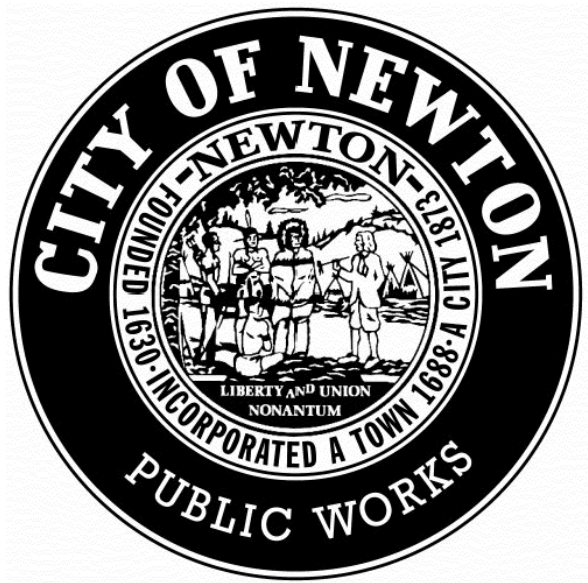
LOCUS PLAN  
CITY HALL PONDS  
NEWTON, MASSACHUSETTS  
U.S.G.S. Newton Quad  
1" = 1000'



CITY OF NEWTON  
DEPARTMENT OF PUBLIC WORKS

SETTI D. WARREN, MAYOR

THIS PROJECT IS FUNDED BY THE  
CITY OF NEWTON STORMWATER FUND

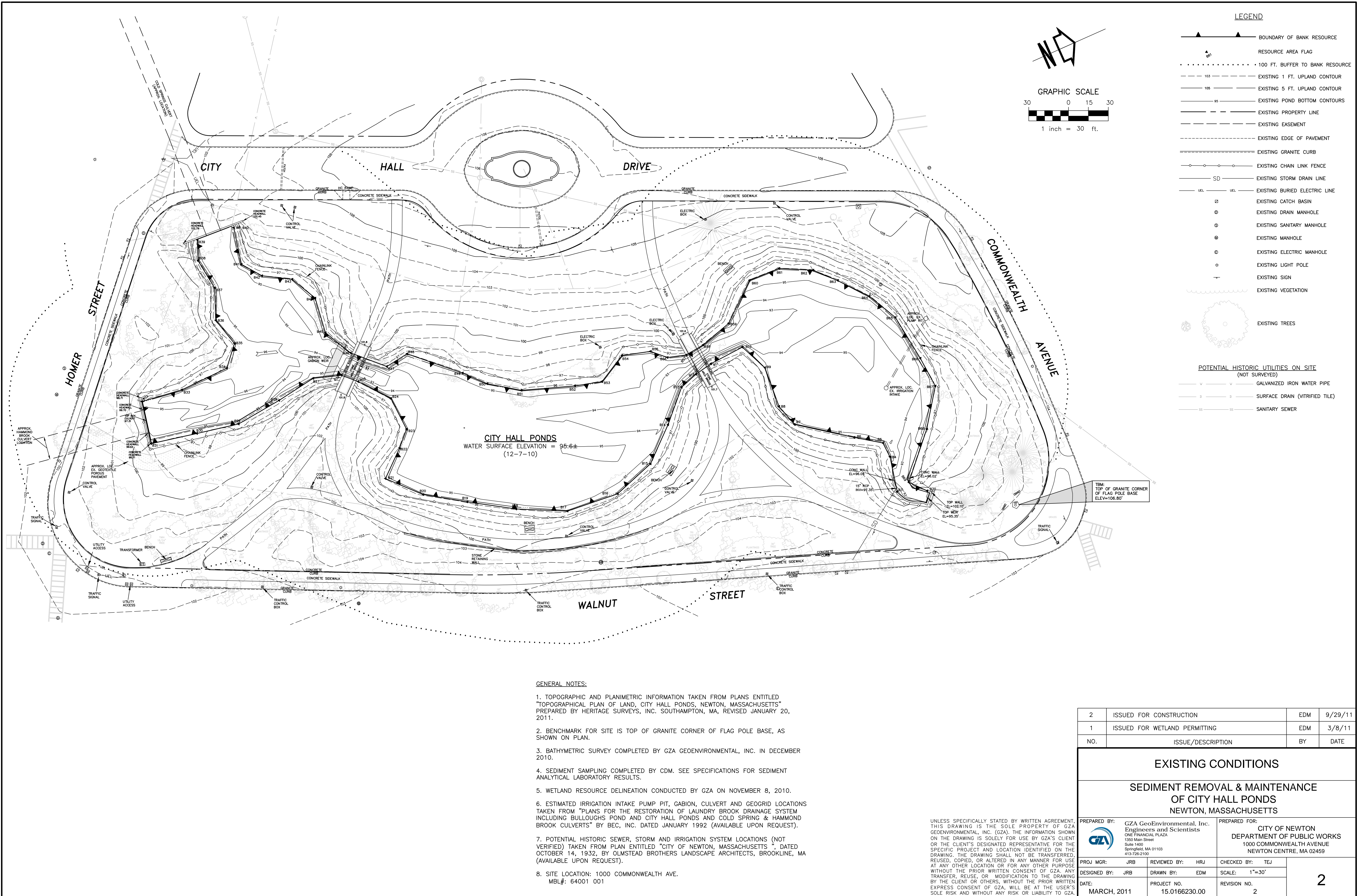


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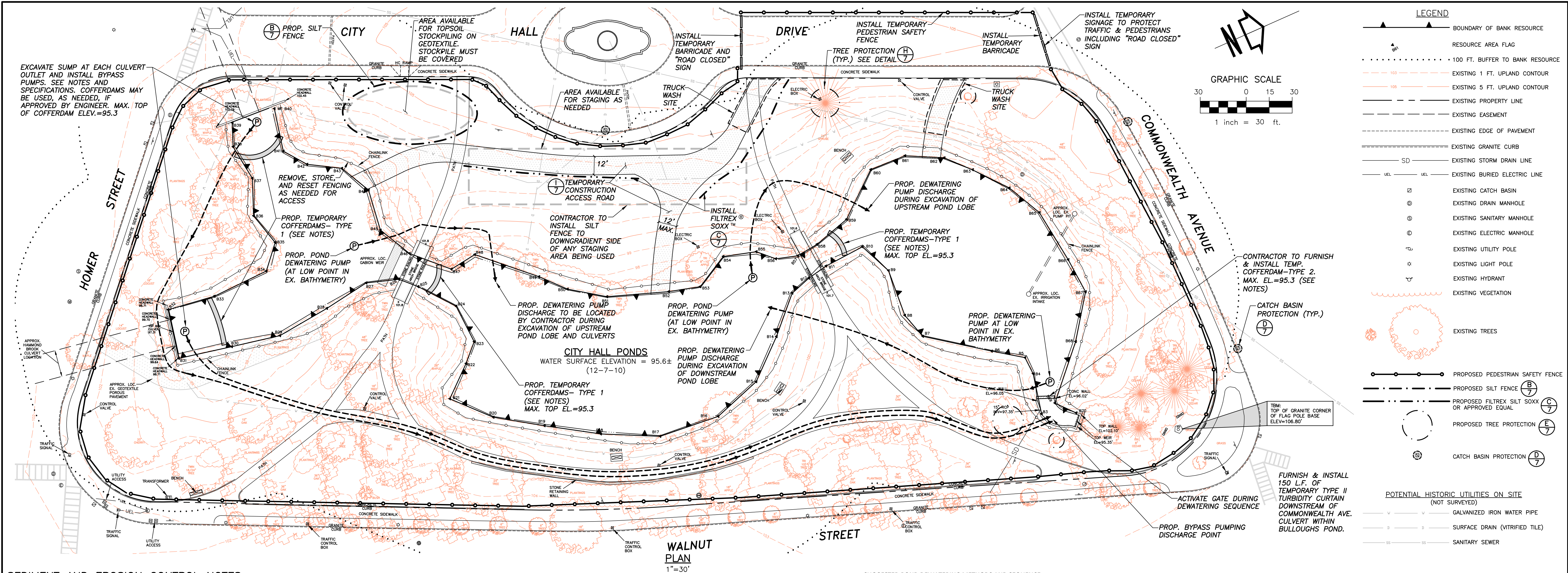


GZA GeoEnvironmental, Inc.  
Engineers and Scientists  
ONE FINANCIAL PLAZA  
1350 Main Street  
Suite 1400  
Springfield, MA 01103  
413-726-2100









### SEDIMENT AND EROSION CONTROL NOTES:

1. SEDIMENT BASINS AND TRAPS, PERIMETER BERMS, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UP-SLOPE LAND DISTURBANCE TAKES PLACE.
2. THE CONTRACTOR SHALL CONSTRUCT ALL EROSION AND SEDIMENT CONTROL MEASURES PER THE SEDIMENT AND EROSION CONTROL (S&EC) PLAN PRIOR TO BEGINNING ANY OTHER LAND DISTURBANCES. SHALL INSURE THAT ALL RUNOFF FROM DISTURBED AREAS IS DIRECTED TO THE SEDIMENT CONTROL DEVICES, AND SHALL NOT REMOVE ANY EROSION OR SEDIMENT CONTROL MEASURES UNTIL THE AREAS DRAINING TO THEM ARE FINAL STABILIZED. THE CONTRACTOR SHALL INSPECT DAILY AND MAINTAIN CONTINUOUSLY IN EFFECTIVE OPERATING CONDITION ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL SUCH TIME AS THEY ARE REMOVED. CONDUCT INSPECTIONS AND REPORTING IN ACCORDANCE WITH ALL PERMITS.
3. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE CONTRACTOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES (BMPs) TO ELIMINATE THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION. THE CONTRACTOR SHALL INSTALL AND MAINTAIN, AT NO ADDITIONAL COST TO THE OWNER, ANY ADDITIONAL EROSION CONTROL MEASURES DEEMED NECESSARY FOR PERMIT COMPLIANCE BY THE CONTRACTOR, THE OWNER AND/OR THEIR REPRESENTATIVES, OR BY FEDERAL/STATE/LOCAL GOVERNMENT INSPECTORS.
4. ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH APPLICABLE PUBLISHED STANDARDS AND SPECIFICATIONS AND THE "MASSACHUSETTS EROSION AND SEDIMENT CONTROL GUIDELINES FOR URBAN AND SUBURBAN AREAS: A GUIDE FOR PLANNERS, DESIGNERS, AND MUNICIPAL OFFICIALS" (MA DEP, MAY 2003).
5. CONSTRUCTION ENTRANCE(S) SHALL BE INSTALLED CONCURRENTLY WITH THE INITIATION OF CLEARING AND GRUBBING OPERATIONS. THE CONTRACTOR SHALL PROTECT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS ONTO TRAVERSED PUBLIC THOROUGHFARES. ALL MATERIALS DEPOSITED ONTO PUBLIC THOROUGHFARES SHALL BE REMOVED IMMEDIATELY.
6. ALL SEDIMENT BASINS, TRAP EMBANKMENTS, SWALES, PERIMETER DIKES, AND PERMANENT SLOPES STEEPER OR EQUAL TO 3:1 SHALL BE STABILIZED WITH SOD, SEED AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES, WITHIN SEVEN (7) CALENDAR DAYS OF ESTABLISHMENT. NO AREAS OUTSIDE OF THE PERIMETER SEDIMENT CONTROL BARRIER OR LIMIT OF WORK SHALL BE DISTURBED.
7. THE CONTRACTOR SHALL APPLY SOD, SEED AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES TO ALL DISTURBED AREAS WITHIN 14 CALENDAR DAYS AFTER STRIPPING AND GRADING ACTIVITIES HAVE CEASED ON THAT AREA. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION. ACTIVE CONSTRUCTION AREAS, SUCH AS BORROW OR STOCKPILE AREAS, ROADWAY IMPROVEMENTS, AND AREAS WITHIN 50 FEET OF A BUILDING UNDER CONSTRUCTION MAY BE EXEMPTED FROM THIS REQUIREMENT, PROVIDED THAT EROSION AND SEDIMENT CONTROL MEASURES ARE INSTALLED AND MAINTAINED TO PROTECT THOSE AREAS.
8. STOCKPILES WHICH HAVE NOT BEEN USED FOR 14 CALENDAR DAYS, SHALL BE STABILIZED THROUGH THE APPLICATION OF SOD, SEED AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES.
9. ALL CATCH BASINS OR OTHER DRAIN INLETS WHICH MAY RECEIVE STORMWATER FROM DISTURBED AREAS SHALL BE PROVIDED WITH SUITABLE INLET PROTECTION CONSISTING OF AN OPEN-TOP FILTER FABRIC BAG THAT IS DESIGNED TO HANG UNDERWATER A STORM GRATE TO FILTER SEDIMENT-LADEN STORMWATER. THESE FILTER SACKS/BAGS SHALL BE INSPECTED WEEKLY, AND AFTER EACH RAIN EVENT AND MAINTAINED AS NOTED IN THE DETAIL.
10. EFFLUENT FROM DEWATERING OPERATIONS AND LINE FLUSHING DISCHARGES SHALL BE DIRECTED INTO FIBER MATS, NETTING, RIPRAP, OR NATURALLY OCCURRING GROUND COVER TO MINIMIZE EROSION. EFFLUENT FROM DEWATERING OPERATIONS SHALL BE PUMPED EITHER TO SEDIMENT TANKS, SEDIMENT BAGS, AND/OR SEDIMENT TRAPS FOR SEDIMENT REMOVAL. DEWATERING SHALL BE PERFORMED IN ACCORDANCE WITH THE "MASSACHUSETTS EROSION AND SEDIMENT CONTROL GUIDELINES FOR URBAN AND SUBURBAN AREAS: A GUIDE FOR PLANNERS, DESIGNERS, AND MUNICIPAL OFFICIALS" AND IN A MANNER THAT DOES NOT ADVERSELY AFFECT AREAS OUTSIDE OF THE LIMIT OF WORK.
11. TEMPORARY SEDIMENT TRAP(S) SHALL BE CLEANED OUT AND RESTORED TO ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO A POINT ONE HALF (1/2) THE DEPTH BETWEEN THE OUTLET CREST AND THE BOTTOM OF THE TRAP.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF DUST AND DIRT RISING AND SCATTERING IN THE AIR DURING CONSTRUCTION AND SHALL PROVIDE WATER SPRINKLING, CALCIUM CHLORIDE, OR OTHER EFFECTIVE MEANS OF CONTROL.
13. ALL WASTE MATERIALS GENERATED AT THE SITE SHALL BE IMMEDIATELY REMOVED AND DISPOSED OF OR STORED IN A SECURELY-COVERED CONTAINER IN ACCORDANCE WITH LOCAL AND STATE REGULATIONS. CONTAINER SHALL BE EMPTIED ON A REGULAR BASIS AND AS NECESSARY, NO CONSTRUCTION WASTE OR DEBRIS SHALL BE BURIED ONSITE.
14. PRIOR TO REMOVAL OF SEDIMENT CONTROL MEASURES THE CONTRACTOR SHALL STABILIZE ALL CONTRIBUTORY DISTURBED AREAS USING SOD OR AN APPROVED PERMANENT SEED MIXTURE WITH REQUIRED SOIL AMENDMENTS AND AN APPROVED ANCHORED MULCH. AREAS BROUGHT TO FINISHED GRADE DURING THE SEEDING SEASON SHALL BE PERMANENTLY STABILIZED WITHIN 14 CALENDAR DAYS OF ESTABLISHMENT. WHEN PROPERTY IS BROUGHT TO FINISHED GRADE DURING THE MONTHS WHEN PERMANENT STABILIZATION IS FOUND TO BE IMPRACTICAL, AN APPROVED TEMPORARY SEED AND STRAW ANCHORED MULCH OR OTHER ACCEPTABLE MEANS SHALL BE APPLIED TO DISTURBED AREAS.
15. TEMPORARY SEDIMENT CONTROL DEVICES SHALL BE REMOVED WITHIN (30) CALENDAR DAYS FOLLOWING ESTABLISHMENT OF PERMANENT STABILIZATION IN ALL CONTRIBUTORY DRAINAGE AREAS. STORMWATER MANAGEMENT STRUCTURES USED TEMPORARILY FOR SEDIMENT CONTROL SHALL BE CLEANED AND CONVERTED TO THEIR PERMANENT CONFIGURATION WITHIN THIS TIME PERIOD AS WELL. ALL STORM DRAINAGE STRUCTURES, SUMPS, AND PIPES SHALL BE CLEANED OF ALL SEDIMENTS PRIOR TO FINAL PAYMENT.

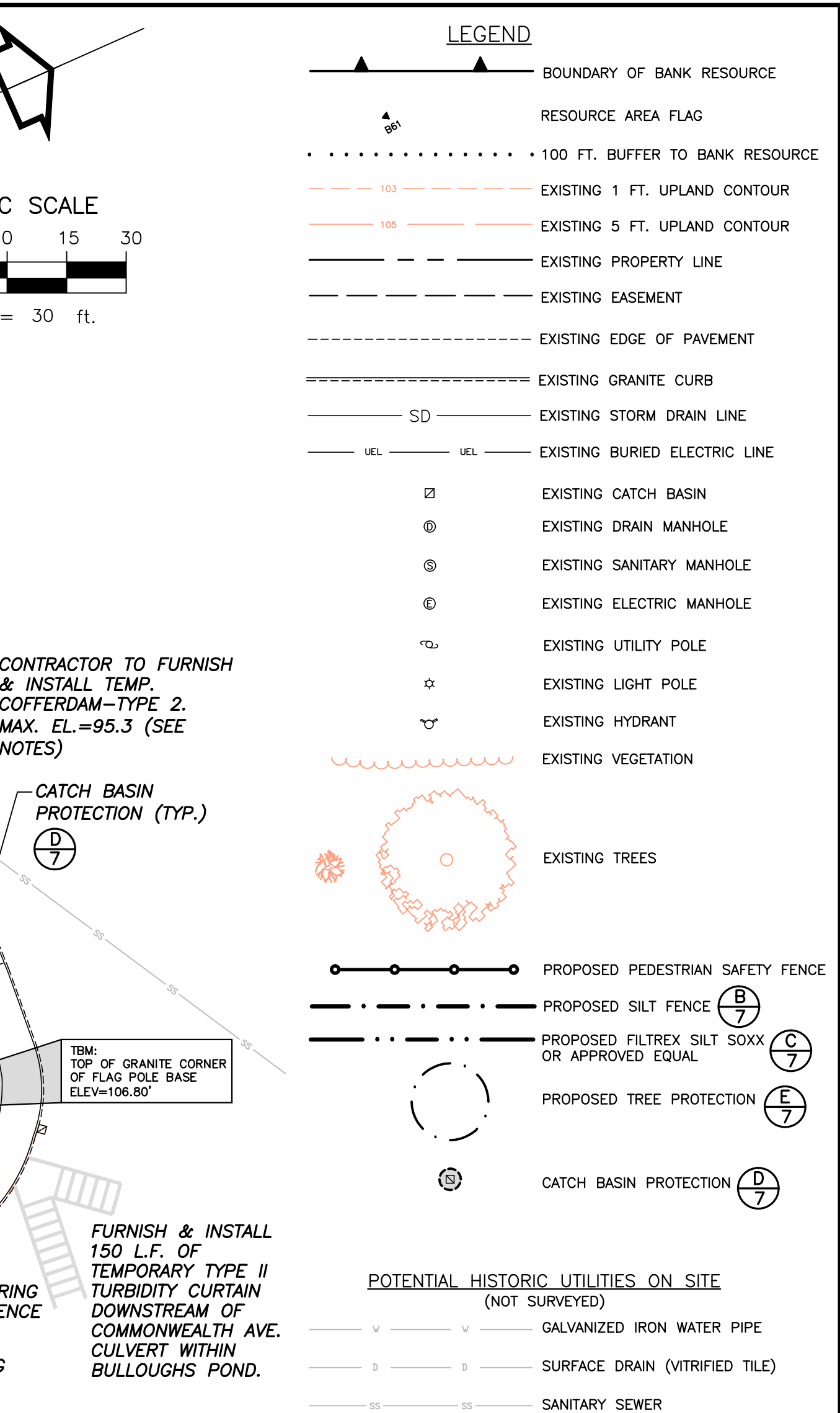
### STORMWATER PERMIT NOTES:

1. THIS PROJECT IS REGULATED UNDER THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY'S (EPA'S) NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORMWATER PERMIT PROGRAM. OPERATORS OF SUCH CONSTRUCTION SITES MUST MEET THE REQUIREMENTS OF EPA'S CONSTRUCTION GENERAL PERMIT (CGP). PART OF THE CGP REQUIREMENTS IS THE PREPARATION OF A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR THE PROPOSED PROJECT. A SWPPP HAS BEEN PREPARED FOR THIS PROJECT AND WILL BE PROVIDED TO THE CONTRACTOR BY THE OWNER.
2. UNDER THE CONTRACT FOR THE CONSTRUCTION OF THIS PROJECT, THE CONTRACTOR SHALL BE THE OWNER'S AGENT IN THE IMPLEMENTATION AND MAINTENANCE OF THE SWPPP.
3. TO OBTAIN COVERAGE UNDER THE CONSTRUCTION GENERAL PERMIT (CGP), A COMPLETE AND ACCURATE NOTICE OF INTENT (NOI) SHALL BE SUBMITTED TO THE ENVIRONMENTAL PROTECTION AGENCY (EPA) BY THE OWNER AND EACH CONTRACTOR AND SUBCONTRACTOR THAT HAS OPERATIONAL CONTROL OVER THE CONSTRUCTION PLANS AND/OR SPECIFICATIONS.
4. EACH PARTY THAT HAS OPERATIONAL CONTROL OVER THE CONSTRUCTION PLANS AND/OR SPECIFICATIONS IS CONSIDERED AN OPERATOR, AND SHALL ALSO SIGN THE CERTIFICATION FORM INCLUDED IN THE SWPPP.
5. EACH OPERATOR IS EQUALLY RESPONSIBLE FOR COMPLYING WITH THE TERMS OF THE CGP AND FOR THE EFFECTIVE IMPLEMENTATION OF THE SWPPP. EACH OPERATOR SHALL AMEND THE SWPPP AS SITE CONDITIONS WARRANT TO MEET REQUIRED PERMIT ELEMENTS. ALL PARTIES SHALL ALSO MAINTAIN THE SWPPP DOCUMENT, CONDUCT INSPECTIONS, UPGRADE AND MAINTAIN SEDIMENT AND EROSION CONTROLS AS NEEDED, AND MEET ALL NOTICE OF INTENT (NOI) / NOTICE OF TERMINATION (NOT) REQUIREMENTS.
6. IMPLEMENTATION OF THE SWPPP BY THE CONTRACTOR SHALL BEGIN AT THE COMMENCEMENT OF CONSTRUCTION ACTIVITY AND MUST BE FULLY AND CONTINUALLY DOCUMENTED UNTIL FINAL STABILIZATION OF THE SITE IS COMPLETE.
7. A SIGN SHALL BE VISIBLY POSTED AT THE SITE WHICH PROVIDES NOTICE OF THE CGP, A COPY OF EACH NOI, A CONTACT NAME AND PHONE NUMBER, AND THE ONSITE LOCATION WHERE THE SWPPP IS STORED. IF THE SWPPP IS TO BE MAINTAINED OFFSITE, THIS LOCATION MUST BE INDICATED AS WELL. IT IS THE RESPONSIBILITY OF THE OWNER, CONTRACTOR, AND ALL APPLICABLE SUB-CONTRACTORS TO INDICATE CONSTRUCTION ACTIVITY SEQUENCING AND TIMING IN THE SWPPP.
8. INSPECTION AND MAINTENANCE SHALL BE PERFORMED REGULARLY FOR PERMIT COMPLIANCE, AND DOCUMENTATION OF INSPECTIONS AND MAINTENANCE SHALL BE APPENDED TO THE SWPPP.
9. WHENEVER THERE IS A CHANGE IN DESIGN, CONSTRUCTION OPERATION, OR MAINTENANCE AT THE CONSTRUCTION SITE THAT HAS, OR COULD HAVE, A SIGNIFICANT EFFECT ON THE DISCHARGE OF STORM WATER POLLUTANTS, THE SWPPP SHALL BE AMENDED.
10. CONTRACTOR SHALL IDENTIFY THE LOCATIONS OF THE FOLLOWING ON THE S&EC OR PROJECT PLANS:
  - a. PORTABLE SANITARY UNITS (TOILETS)
  - b. LIMITS OF STAGING AREAS & SOIL DISTURBANCE AREAS
  - c. WASTE CONTAINERS (E.G., DUMPSTERS)
  - d. MATERIAL, EQUIPMENT, & VEHICLE STORAGE AREAS
  - e. CONCRETE WASHOUT AREA
  - f. SOIL STOCKPILES & CONTROLS
  - g. VEHICLE/EQUIPMENT MAINTENANCE AND WASHING AREAS.
11. IF ADDITIONAL CONTROLS OR BMPs ARE ADDED, THESE SHALL BE DEPICTED ON THE S&EC OR PROJECT PLANS AND A DESCRIPTION ADDED TO THE SWPPP BY THE CONTRACTOR. THESE NEW CONTROLS SHALL BE ADDED TO THE WEEKLY INSPECTIONS AS WELL. CONTRACTOR SHALL IDENTIFY ON THE S&EC PLANS ALL AREAS THAT HAVE UNDERGONE FINAL STABILIZATION.
12. UPON FINAL STABILIZATION, A NOTICE OF TERMINATION (NOT) SHALL BE SUBMITTED TO THE EPA BY ALL OPERATORS WHO COMPLETED A NOI.
13. NO REFUELING SHALL BE PERMITTED WITHIN THE 100 FT. BUFFER TO RESOURCE AREAS OR WITHIN A RESOURCE AREA.
14. NO HAY OR STRAW BALES SHALL BE USED ON SITE.
15. CONTRACTOR SHALL DESIGNATE EROSION & SEDIMENT CONTROL MANAGER WITH AUTHORITY TO STOP WORK TO CORRECT DEFICIENCIES. 24 HOUR CONTACT INFORMATION SHALL BE SUPPLIED TO ENVIRONMENTAL PLANNER. CONSERVATION COMMISSION SHALL BE CONTACTED WITHIN 24 HRS. OF EROSION & SEDIMENT CONTROL FAILURE.

### SUGGESTED POND DEWATERING METHODS AND SEQUENCE:

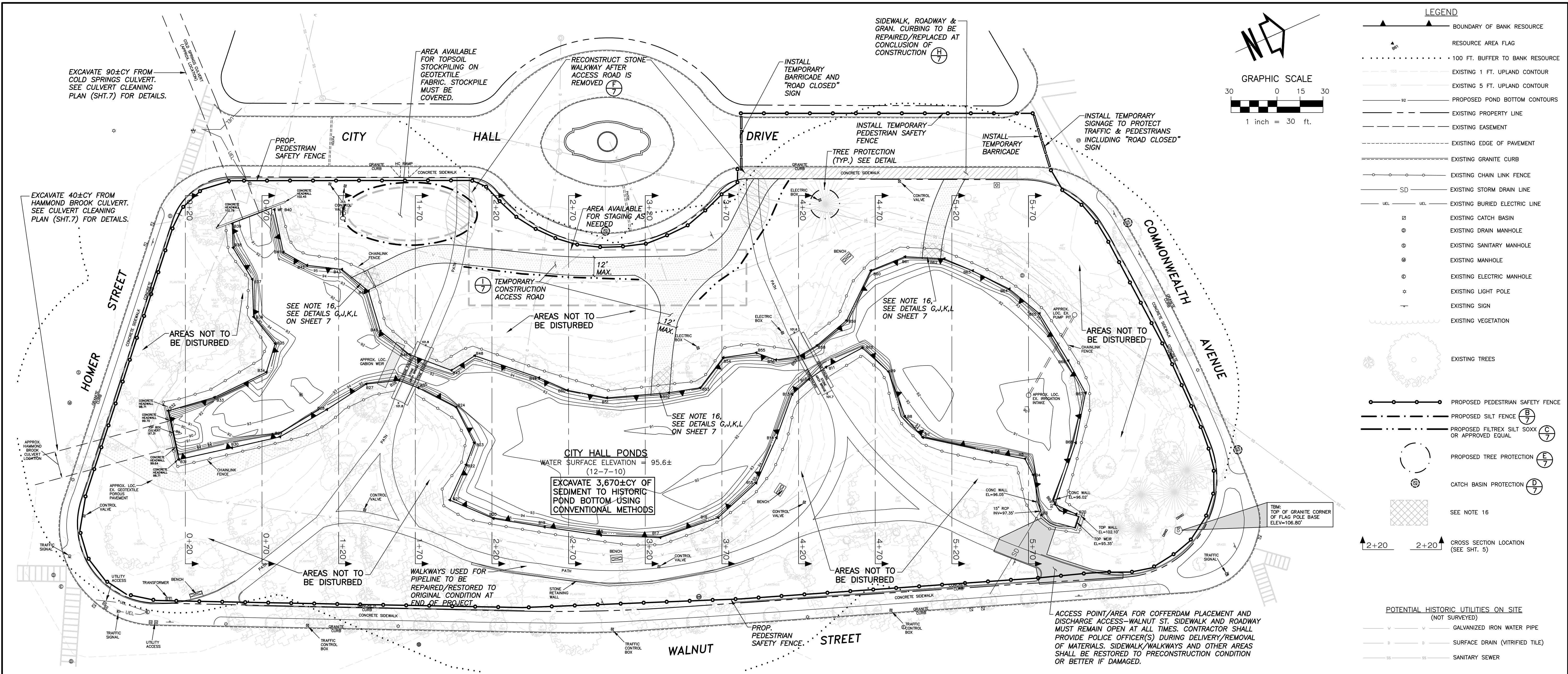
- PHASE I  
STEP I.A. INITIATE POND DEWATERING BY RAISING THE EXISTING CONTROL GATE AT THE NORTH END OF THE POND (OR ANOTHER MEANS DESIGNED BY THE CONTRACTOR TO BE APPROVED BY THE ENGINEER) AND LOWERING THE POND LEVEL TO THE TOP OF EXISTING SEDIMENTS IMMEDIATELY UPSTREAM OF THE POND OUTLET. DO NOT ALLOW SEDIMENTS TO BE MOBILIZED TO DOWNSTREAM AREAS. IF POSSIBLE, RAISE THE GATE INCREMENTALLY TO CONTROL THE OUTFLOW OR USE ALTERNATE MEANS TO CONTROL THE OUTFLOW (TO BE ACCEPTED BY ENGINEER).
- STEP I.B. TEMPORARILY STOP OUTFLOW BY DROPPING THE EXISTING CONTROL GATE. EXCAVATE SUMPS AT THE TWO CULVERT OUTLETS INTO THE POND. SUMPS SHALL BE LINED WITH GEOTEXTILE FABRIC AND WASHED STONE. CONSTRUCT COFFERDAMS AT THESE LOCATIONS, WITH MAXIMUM ELEVATION = 95.3 FT. RAISE THE CONTROL GATE AS PER STEP I.A.
- STEP I.C. INSTALL TYPE 2 COFFERDAM AT DOWNSTREAM END OF POND, IN APPROXIMATE LOCATION SHOWN ON PLANS. ELEVATION OF COFFERDAM SHALL NOT EXCEED 95.3 FT. CONTRACTOR MAY SELECT COFFERDAM MATERIALS TO BE ACCEPTED BY ENGINEER. INSTALL HAMMOND BROOK AND COLD SPRINGS CULVERT BYPASS PUMPS AND BEGIN PUMPING CLEAR WATER TO THE PROPOSED OUTLET POINT PRIOR TO THE CONTROL GATE.
- PHASE II  
STEP II.A. DURING A DRY WEATHER PERIOD, EXCAVATE SEDIMENTS FROM WITHIN THE HAMMOND BROOK AND COLD SPRINGS CULVERTS. DURING THE PERIOD OF SEDIMENT EXCAVATION FROM EACH CULVERT, FLOWS FROM THAT CULVERT WILL BE REDIRECTED TO THE POND BASIN AREA RATHER THAN THE DOWNSTREAM DISCHARGE POINT, TO PREVENT MOBILIZATION OF SEDIMENTS DOWNSTREAM DURING CULVERT EXCAVATION. ONCE CULVERT CLEANING IS COMPLETED AND REVIEWED BY THE ENGINEER, BYPASS PUMPING MAY RESTART FROM THAT CULVERT.
- STEP II.B. WITH BYPASS PUMPS AND DOWNSTREAM COFFERDAM IN PLACE, CONTRACTOR SHALL CONTINUE TO DEWATER THE POND LOBES AS NEEDED THROUGH THE CONSTRUCTION PERIOD BY INSTALLING POND DEWATERING PUMPS IN THE THREE LOBES AS EXCAVATION PROGRESSES, AS DESCRIBED IN THE FOLLOWING SUGGESTED SEQUENCE. DEWATERING PUMPS WITHIN THE POND SHALL BE SET IN SUMPS LINED WITH GEOTEXTILE FABRIC AND SURROUNDED BY WASHED STONE. SUMPS SHALL NOT BE DEEPER THAN THE HISTORICAL POND BOTTOM OR THE EXTENTS SHOWN ON THE PLANS, WHICHEVER IS ENCOUNTERED FIRST. ALL WORK WITHIN THE POND SHOULD PROGRESS FROM UPSTREAM TO DOWNSTREAM.
- PHASE III  
STEP III.A. DURING THE PERIOD OF EXCAVATION OF SEDIMENTS FROM THE UPPER POND LOBE, DEWATERING PUMP DISCHARGES SHOULD BE DIRECTED TO THE NEXT DOWNSTREAM POND LOBE (THE MIDDLE LOBE) FOR SETTLING. TEMPORARY TYPE 1 COFFERDAM MAY BE CONSTRUCTED NEAR THE MORE UPSTREAM PEDESTRIAN BRIDGE, IN A LOCATION SELECTED BY THE CONTRACTOR AND ACCEPTED BY THE ENGINEER.
- STEP III.B. DURING THE PERIOD OF EXCAVATION OF SEDIMENTS FROM THE MIDDLE POND LOBE, DEWATERING PUMP DISCHARGES SHOULD BE DIRECTED TO THE MOST DOWNSTREAM POND LOBE FOR SETTLING. TEMPORARY TYPE 1 COFFERDAM MAY BE CONSTRUCTED NEAR THE MORE DOWNSTREAM PEDESTRIAN BRIDGE, IN A LOCATION SELECTED BY THE CONTRACTOR AND ACCEPTED BY THE ENGINEER.
- STEP III.C. DURING THE PERIOD OF EXCAVATION OF SEDIMENTS FROM THE MOST DOWNSTREAM POND LOBE, DEWATERING PUMP DISCHARGES SHOULD BE DIRECTED UPGRADE/UP TO THE MIDDLE POND LOBE.
- PHASE IV  
STEP IV.A. CONTINUE DEWATERING USING THE POND DEWATERING PUMPS AND BYPASS PUMPS THROUGHOUT THE PROJECT.
- STEP IV.B. DURING DRY WEATHER, INFLOW TO THE POND WILL BE BYPASSED BY THE TWO BYPASS PUMPS. OTHER INFLOW WILL COLLECT IN LOW LYING AREAS. THE CONTRACTOR SHALL OPERATE THE POND DEWATERING PUMPS AS NEEDED TO PUMP FLOWS TO OTHER POND LOBES. NO DEWATERING PUMP DISCHARGE DIRECTLY TO DOWNSTREAM AREAS WILL BE ALLOWED. NO TURBID DISCHARGES TO THE POND OUTLET AND DOWNSTREAM AREAS WILL BE ALLOWED. ALL DISCHARGE REQUIREMENTS OF PROJECT PERMITS MUST BE MET.
- STEP IV.C. DURING WET WEATHER, THE CONTRACTOR SHALL MINIMIZE THE RISE OF WATER WITHIN THE POND BY CONTINUING TO BYPASS PUMP AND BY USING THE DEWATERING PUMPS. IF INCOMING FLOW EXCEEDS THE CONTRACTOR'S CAPACITY TO PUMP OR TO TREAT DEWATERING DISCHARGES, CONTRACTOR SHALL REMOVE EQUIPMENT AND MACHINERY FROM THE POND AND ALLOW FLOW TO REFILL THE POND AND TO PASS OVER THE COFFERDAM AND DOWNSTREAM.
- STEP IV.D. ALL MATERIALS USED IN THE CONSTRUCTION OF COFFERDAMS SHALL BE REMOVED AT THE END OF THE PROJECT. ALL AREAS DISTURBED BY PUMPS, PIPELINES, ACCESS, AND OTHER MATERIALS/ACTIVITIES ASSOCIATED WITH CONTROL OF WATER SHALL BE RESTORED TO PRECONSTRUCTION CONDITION OR BETTER AT THE END OF THE PROJECT.

UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.



NOTES:			
1. CONTRACTOR SHALL SUBMIT DETAILED DEWATERING PLAN, CONSTRUCTION SEQUENCE, AND SHOP DRAWINGS AND NARRATIVE DESCRIPTION OF ALL COFFERDAMS FOR ACCEPTANCE BY THE ENGINEER PRIOR TO INITIATING ANY WORK ONSITE. CONTRACTOR SHALL BE AWARE THAT THE POND HAS A 2.4+ SQUARE MILE WATERSHED (ACCORDING TO CITY OF NEWTON GIS MAPPING - AVAILABLE UPON REQUEST) AND THAT FLOW THROUGH THE POND IS FLASHY IN NATURE DUE TO STORMWATER INPUTS. PUMPS WILL NEED TO BE SIZED BY THE CONTRACTOR TO HANDLE INFLOWS. FLOODING POTENTIAL EXISTS AND MUST BE CONSIDERED IN THE DEWATERING AND CONTROL OF WATER PLAN. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROL OF WATER FOR THE DURATION OF CONSTRUCTION. ALL DAMAGE CAUSED BY WATER FLOW AT THE SITE IS THE RESPONSIBILITY OF THE CONTRACTOR, AT NO ADDITIONAL COST TO THE OWNER.			
2. TEMPORARY COFFERDAMS (TYPE 1) TO BE INSTALLED BY CONTRACTOR. TYPE 1 COFFERDAMS MAY BE CONSTRUCTED OF EARTHEN MATERIALS, SANDBAGS, OR OTHER MATERIALS ACCEPTED BY THE ENGINEER. MAX. ELEVATIONS=95.3. TEMPORARY COFFERDAMS MUST BE IN PLACE DURING EXCAVATION OF THE DOWNSTREAM POND LOBE.			
3. TYPE 2 COFFERDAM MATERIAL TO CONSIST OF A BLADDER STYLE INFLATABLE COFFERDAM, A SANDBAG CONSTRUCTED COFFERDAM, OR OTHER CONSTRUCTION PROPOSED BY CONTRACTOR. TYPE 2 COFFERDAM MUST BE CAPABLE OF BEING OVERTOPPED WITHOUT ERODING OR RELEASING MATERIALS DOWNSTREAM IN THE CASE OF A LARGE STORM EVENT. ACCEPTANCE OF THE COFFERDAM CONSTRUCTION BY THE ENGINEER IN NO WAY RELIEVES THE CONTRACTOR OF ANY RESPONSIBILITY FOR ITS DESIGN AND FUNCTION.			
NO.	ISSUE/DESCRIPTION	BY	DATE
4	RVSD. ACCESS AT CITY HALL DR./ISSUED FOR CONSTRUCTION	EDM	9/29/11
3	RVSD. STOCKPILE LOCATION & DEWATERING NOTES	EDM	4/8/11
2	MISC. CHANGES PER MUNICIPAL REVIEW & COMMENT	EDM	3/23/11
1	ISSUED FOR WETLAND PERMITTING	EDM	3/8/11
SEDIMENT & EROSION CONTROL PLAN AND DEWATERING PLAN			
SEDIMENT REMOVAL & MAINTENANCE OF CITY HALL PONDS NEWTON, MASSACHUSETTS			
GZA GeoEnvironmental, Inc. Engineers and Scientists ONE FINANCIAL PLAZA 1350 Main Street Suite 1400 Springfield, MA 01103 413-726-2100		PREPARED FOR: CITY OF NEWTON DEPARTMENT OF PUBLIC WORKS 1000 COMMONWEALTH AVENUE NEWTON CENTRE, MA 02459	
PROJ MGR:	JRB	REVIEWED BY:	HRJ
DESIGNED BY:	JRB	DRAWN BY:	EDM
DATE:	MARCH, 2011	PROJECT NO.	15.0166230.00
		CHECKED BY:	TEJ
		SCALE:	1"=30'
		REVISION NO.	4





CONSTRUCTION NOTES - SEDIMENT REMOVAL AND MAINTENANCE OF CITY HALL PONDS

- PLANS DO NOT PURPORT TO SHOW ALL EXISTING UTILITIES. CONTACT DIG SAFE (1-888-344-7233) 72 HOURS PRIOR TO BEGINNING EXCAVATION ACTIVITIES.
- ALL WORK SHALL COMPLY WITH ENVIRONMENTAL PERMITS ISSUED FOR THE PROJECT. CONTRACTOR SHALL PROVIDE AND ERECT REQUIRED SIGN FOR DISPLAYING DEP FILE NUMBER (SEE SPECIFICATIONS).
- TREES AND PERMANENT STRUCTURES ARE TO BE PROTECTED. VEGETATION REMOVAL SHALL BE LIMITED ALONG POND BANKS AS PER ENVIRONMENTAL PERMITS AND PROJECT PLANS AND SPECIFICATIONS.
- SITE ACCESS SHALL BE AS SHOWN ON THE PLANS AND DETAILED IN THE PROJECT SPECIFICATIONS. CONTRACTOR MAY MAKE MINOR ADJUSTMENTS TO LOCATION AND ALIGNMENT OF ACCESS DRIVE ONLY WITH ACCEPTANCE OF OWNER.
- EXCAVATION SHALL CONFORM TO THE REQUIREMENTS OF THE SPECIFICATIONS.
- SEQUENCE OF EXCAVATION OPERATIONS SHALL INSURE THE EFFICIENT REMOVAL OF MATERIALS IN A TIMELY MANNER. SEQUENCE OF OPERATIONS MUST COMPLY WITH THE TERMS OF ANY ENVIRONMENTAL PERMITS ISSUED FOR THE PROJECT AND THE PROJECT SPECIFICATIONS.
- NOTIFY THE ENGINEER IF ANY UTILITIES ARE DISCOVERED DURING THE DRAWDOWN OF THE POND OR EXCAVATION OPERATIONS. UTILITIES DETERMINED TO BE ABANDONED SHALL BE REMOVED WITHIN THE GRADES SHOWN IN THE PLANS AT THE ENGINEER'S DIRECTION. ACTIVE UTILITIES SHALL NOT BE DISTURBED UNLESS DIRECTED BY THE ENGINEER. IRRIGATION SYSTEM IS ACTIVE. CONTRACTOR SHALL PROTECT ALL UTILITIES THROUGHOUT COURSE OF PROJECT. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR/REPLACEMENT OF ALL DAMAGED UTILITIES/IRRIGATION SYSTEMS AT NO ADDITIONAL EXPENSE TO OWNER.
- GABION WEIR IN POND MUST BE PROTECTED FROM DAMAGE DURING THE CONSTRUCTION PERIOD AND REPAIRED/RESET IF DAMAGE OR MOVEMENT OCCURS.
- OVEREXCAVATION BEYOND THE AREA OF WORK AND CONTOURS INDICATED ON THE PLANS AND THE ELEVATIONS INDICATED ON THE CROSS SECTIONS WILL NOT BE PERMITTED OR PAID FOR BY THE OWNER. THE POND REPORTEDLY HAS A CLAY LINER. THE HISTORIC POND BOTTOM/LINER SHALL NOT BE DISTURBED DURING THE PROJECT.
- BEDROCK IS NOT TO BE EXCAVATED IF ENCOUNTERED.
- UNUSABLE MATERIALS INCLUDING ALL MANMADE OR NATURAL OBJECTS NOT CLASSIFIED AS SEDIMENTS SHALL BECOME THE PROPERTY OF THE CONTRACTOR, INCLUDING BUT NOT LIMITED TO TIRES, CAR PARTS, APPLIANCES, TREE STUMPS OR LIMBS, VEGETATION, ETC. THESE MATERIALS MUST BE DISPOSED OF AT AN APPROPRIATE LOCATION CONSISTENT WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS.
- EQUIPMENT AND MATERIALS STORAGE SHALL BE CONFINED TO THE STAGING AREA. EXCAVATION EQUIPMENT MAY BE PARKED ON THE CONSTRUCTION ACCESS DURING PERIODS OF INACTIVITY.
- REFUELING OF EQUIPMENT MUST TAKE PLACE OUTSIDE OF THE POND AND THE 100 FT. BUFFER TO RESOURCE AREAS. TEMPORARY FUEL STORAGE TANKS SHALL NOT BE PERMITTED AT THE PROJECT SITE. REFUELING ON SITE MAY ONLY OCCUR IN AREAS APPROVED BY THE OWNER.
- THE POTENTIAL EXISTS FOR MAJOR FLOOD EVENTS DURING THE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL NOT LEAVE EQUIPMENT IN THE POND AREA DURING PERIODS WHEN PERSONNEL ARE NOT ON SITE TO MOVE IT.
- AT THE COMPLETION OF EXCAVATION OPERATIONS, THE CONTRACTOR SHALL REMOVE ALL EROSION CONTROL BARRIERS, GEOTEXTILE FABRICS, STONE, TIMBERS, AND OTHER MATERIALS USED FOR TEMPORARY ACCESS OR CONTROLS ON THE POND BOTTOM.
- CONTRACTOR TO REMOVE AND RESET CHAIN LINK FENCE AND BOULDERS AT THREE POND ACCESS POINTS. EACH OF THREE POND ACCESS POINTS SHALL INCLUDE VEGETATION REMOVAL ALONG NO MORE THAN 15 FT. OF BANK. TOPSOIL FROM ACCESS AREAS (HATCHED ON PLAN) SHALL BE STOCKPILED SEPARATELY AND RESET AT PROJECT END. RESTORATION OF AREAS SHALL COMMENCE WITHIN 14 DAYS OF THE END OF WORK WITHIN A POND LOBE AND ACCESS ROAD REMOVAL. 12" DIA. FILTREX® SOXX® SHALL BE PLACED AROUND AREA UNTIL VEGETATION IS ESTABLISHED.

PROPOSED POND BOTTOM PLAN

1"=30'

SEDIMENT EXCAVATION AND DISPOSAL NOTES:

- PROPOSED CONTOURS APPROXIMATE THE ORIGINAL POND BOTTOM BENEATH THE ACCUMULATED SEDIMENTS AS ESTIMATED BY PROBING DATA OBTAINED BY GZA GEOENVIRONMENTAL, INC. IN DECEMBER 2010.
- SEDIMENT EXCAVATION SHALL PROCEED TO THE LINES AND GRADES AS INDICATED ON THESE PLANS AND CROSS SECTIONS OR TO THE FIRM CLAY BOTTOM APPROVED BY THE ENGINEER, WHICHEVER IS FIRST ATTAINED.
- OVEREXCAVATION BEYOND THE LINES AND GRADES AS INDICATED ON THESE PLANS AN DISTURBANCE OF THE CLAY ORIGINAL POND BOTTOM WILL NOT BE PERMITTED OR PAID FOR BY THE OWNER.
- DREDGED SLOPES SHALL HAVE A MAXIMUM STEEPNESS OF 3 HORIZONTAL TO 1 VERTICAL (3H:1V).
- SEDIMENTS SHALL BE TRANSPORTED BY THE CONTRACTOR FOR REUSE AT A LICENSED SOLID WASTE FACILITY SELECTED BY THE OWNER. SEE SPECIFICATIONS FOR DETAILS.

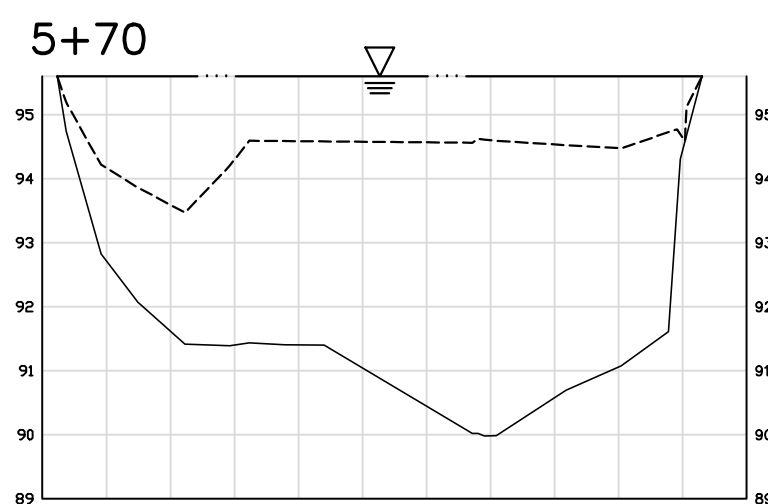
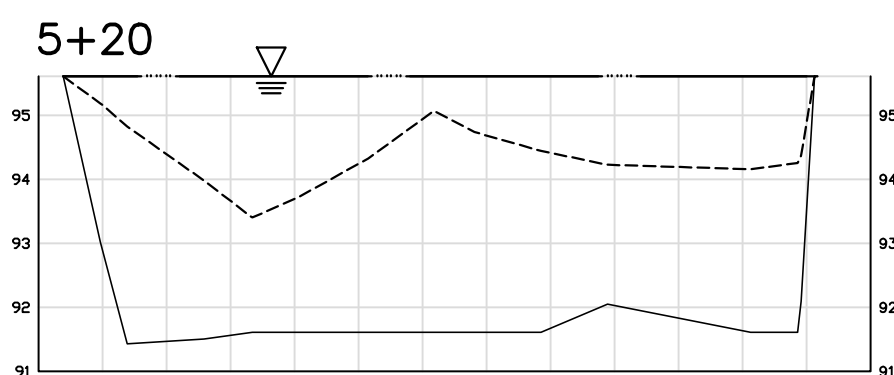
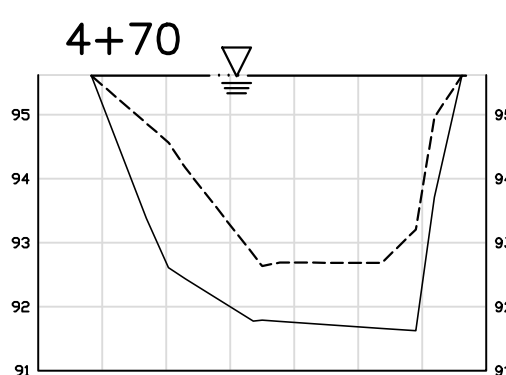
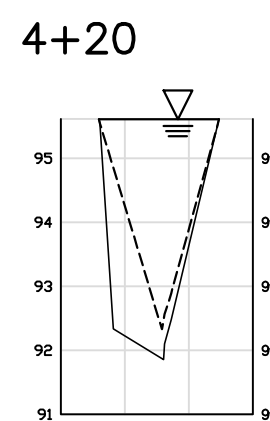
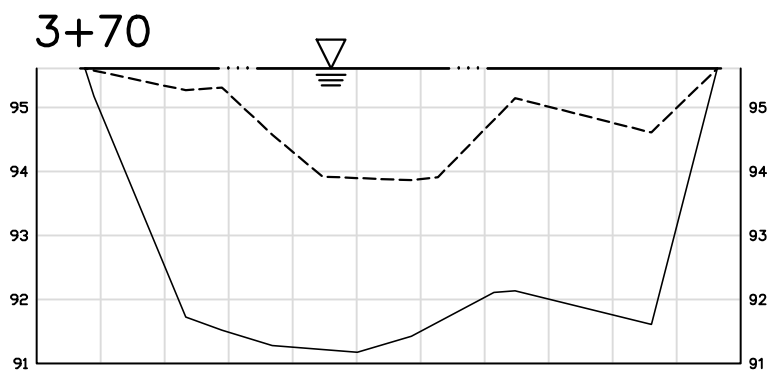
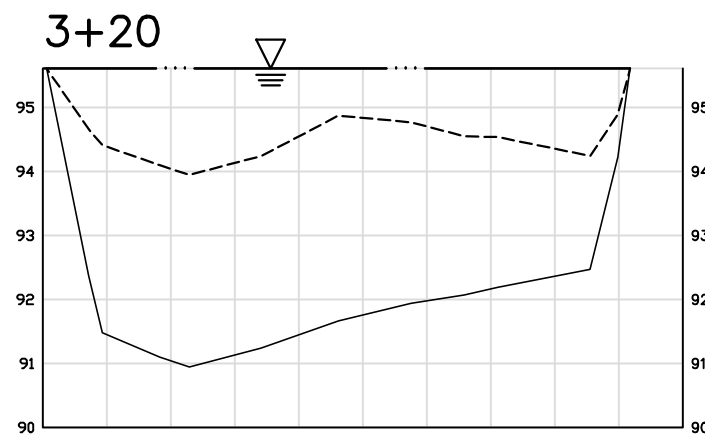
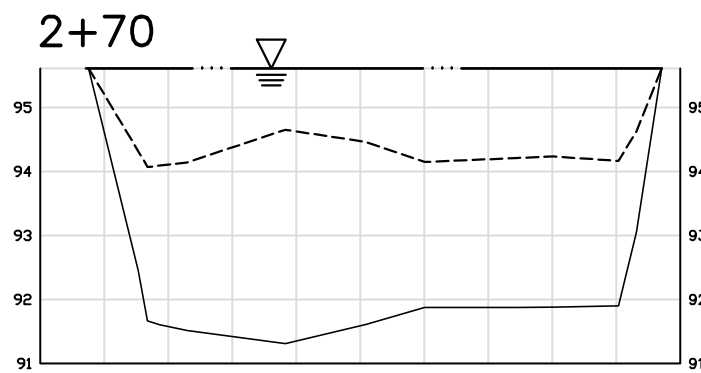
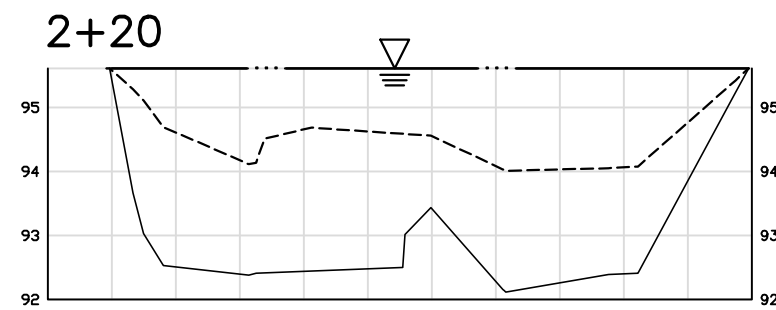
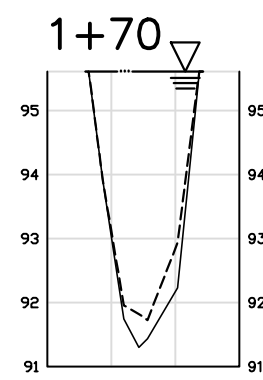
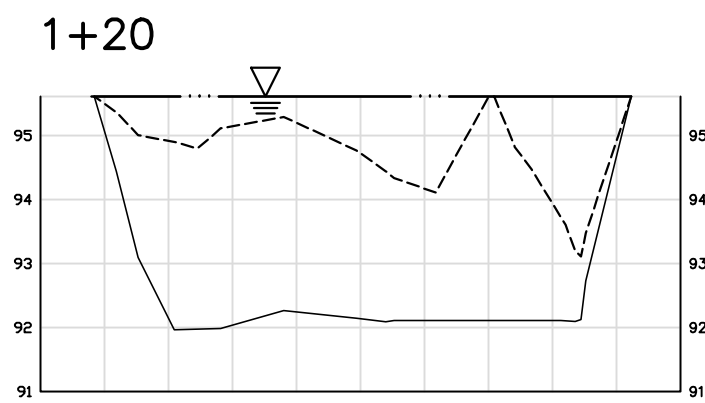
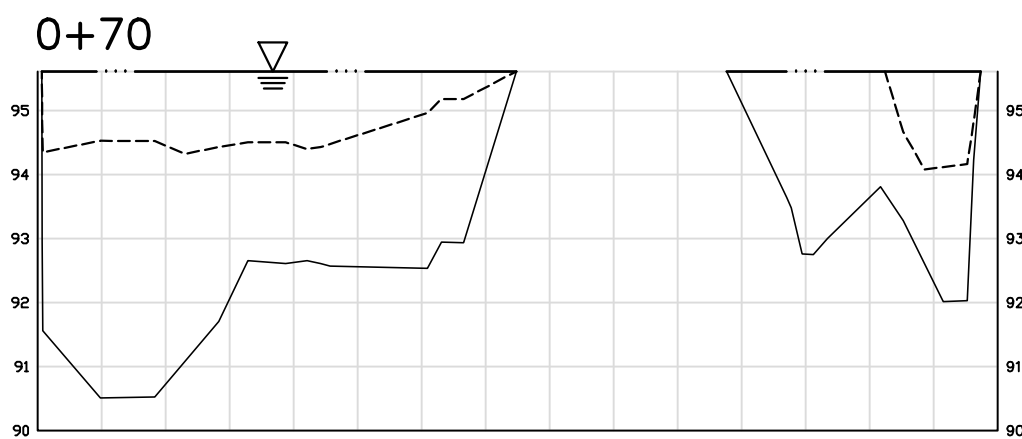
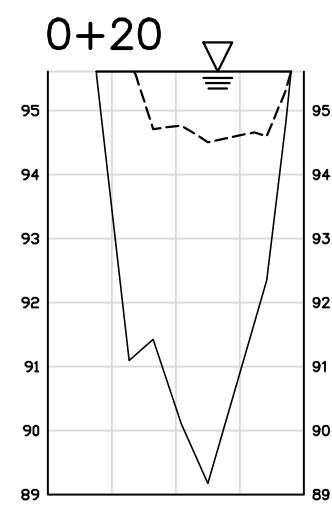
RESTORATION OF DISTURBED AREA NOTES:

- ANY DAMAGE TO SIDEWALKS MUST BE REPAIRED PER DETAIL IN PLAN SET.
- EXISTING WALKWAYS TO BE RESTORED TO ORIGINAL CONDITION AFTER TEMPORARY ACCESS ROUTES HAVE BEEN REMOVED.
- CONTRACTOR TO REMOVE ALL STONE AND FILTER FABRIC FROM TEMPORARY ACCESS AREAS AT END OF CONSTRUCTION.
- ALL DISTURBED AREAS BEYOND POND LIMITS TO BE RESTORED TO PRECONSTRUCTION GRADES WITH ORDINARY BORROW, DRESSED WITH 6 INCHES OF TOPSOIL AND SODDED, EXCEPT AREAS NOTED ALONG BANK OF PONDS, WHICH SHOULD BE RESTORED TO PRECONSTRUCTION SUBGRADES WITH ORDINARY BORROW, DRESSED WITH TOPSOIL SET ASIDE FROM BANK AREA AT START OF CONSTRUCTION TO ATTAIN PRECONSTRUCTION GRADE AND MULCHED, WITH WOODY VEGETATION PLANTED AS PER PLANTING PLAN (SEE SHT. 7) AND SPECIFICATIONS.

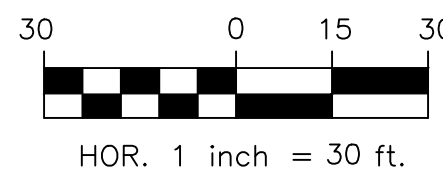
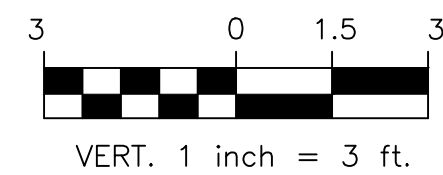
OPERATION & MAINTENANCE (O&M) NOTES:

- POST CONSTRUCTION, THE CITY OF NEWTON DEPARTMENT OF PUBLIC WORKS WILL OPERATE & MAINTAIN THE POND IN ACCORDANCE WITH THE O&M PLAN DEVELOPED FOR THE SITE.

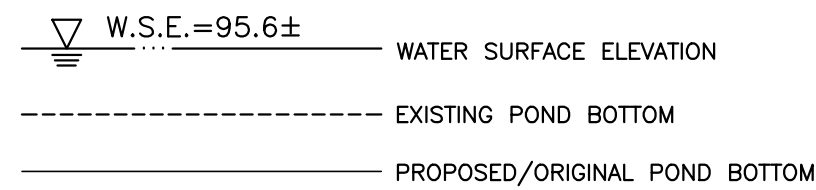




GRAPHIC SCALE



LEGEND



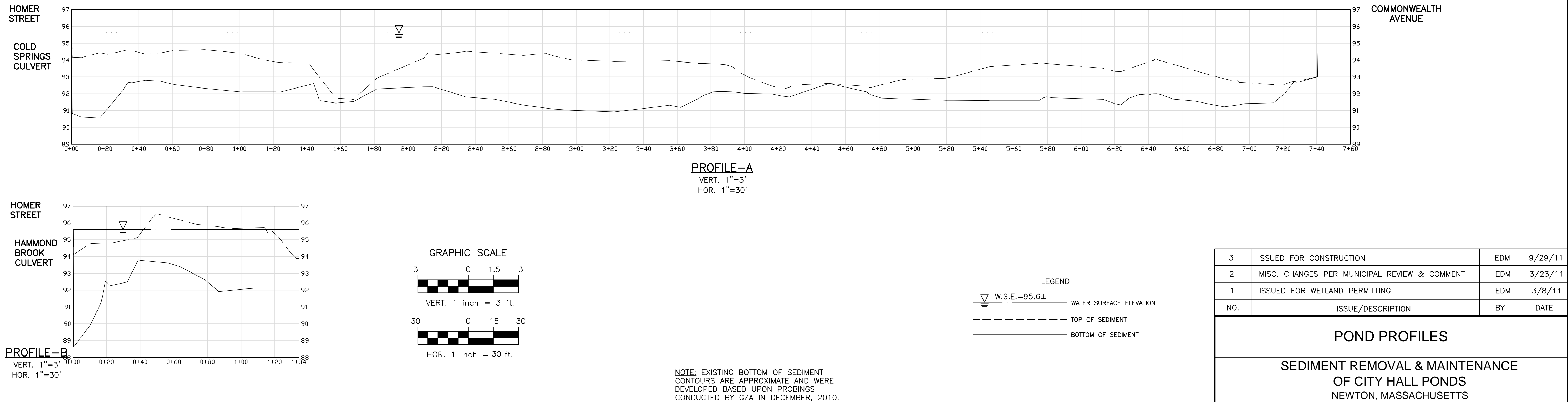
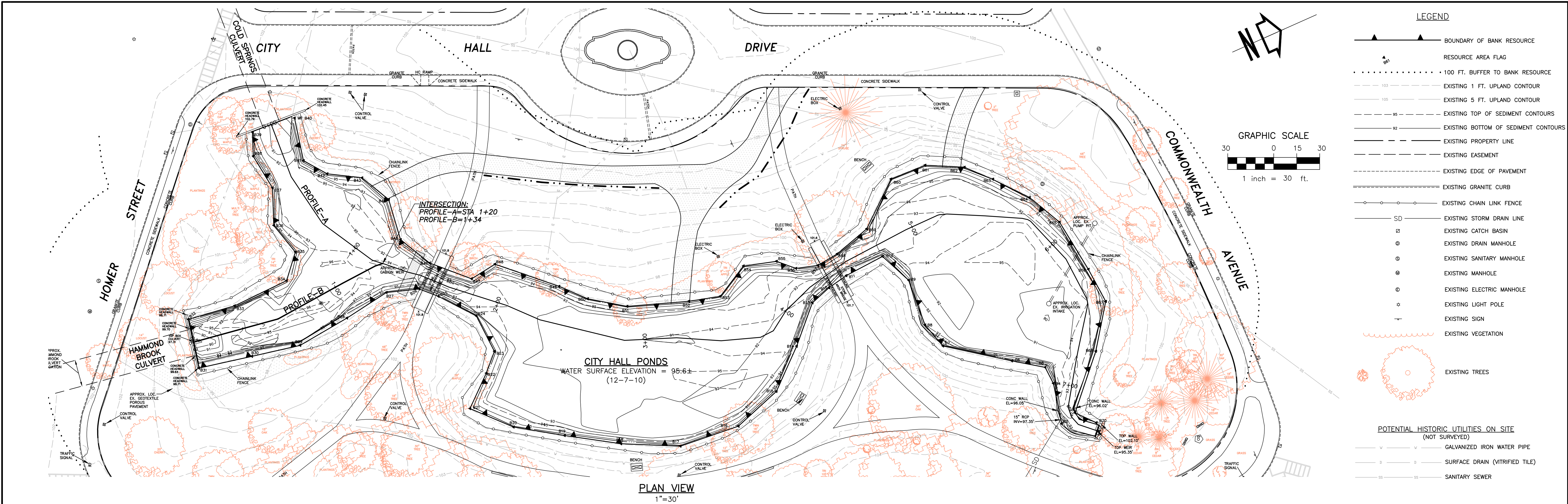
NOTES:

1. SEE SH. 4 FOR CROSS SECTION LOCATIONS.
2. CROSS SECTIONS ARE ORIENTED FACING DOWNSTREAM.

UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.

2	MISC. CHANGES TO NOTES, ISSUED FOR CONSTRUCTION	EDM	9/29/11
1	ISSUED FOR WETLAND PERMITTING	EDM	3/8/11
NO.	ISSUE/DESCRIPTION	BY	DATE
POND CROSS SECTIONS			
SEDIMENT REMOVAL & MAINTENANCE OF CITY HALL PONDS NEWTON, MASSACHUSETTS			
PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists ONE FINANCIAL PLAZA 1350 Main Street Suite 1400 Springfield, MA 01103 413-726-2100		PREPARED FOR: CITY OF NEWTON DEPARTMENT OF PUBLIC WORKS 1000 COMMONWEALTH AVENUE NEWTON CENTRE, MA 02459	
PROJ MGR:	JRB	REVIEWED BY:	HRJ
DESIGNED BY:	JRB	DRAWN BY:	EDM
DATE:	MARCH, 2011	PROJECT NO.	15.0166230.00
		CHECKED BY:	TEJ
		SCALE:	VERT. 1"=3' HOR. 1"=30'
		REVISION NO.	2
			SHEET 5





3	ISSUED FOR CONSTRUCTION	EDM	9/29/11
2	MISC. CHANGES PER MUNICIPAL REVIEW & COMMENT	EDM	3/23/11
1	ISSUED FOR WETLAND PERMITTING	EDM	3/8/11
NO.	ISSUE/DESCRIPTION	BY	DATE

**POND PROFILES**

**SEDIMENT REMOVAL & MAINTENANCE  
OF CITY HALL PONDS  
NEWTON, MASSACHUSETTS**

<b>PREPARED BY:</b> GZA GeoEnvironmental, Inc. Engineers and Scientists ONE FINANCIAL PLAZA 1350 Main Street Suite 1400 Springfield, MA 01103 413-726-2100		<b>PREPARED FOR:</b> CITY OF NEWTON DEPARTMENT OF PUBLIC WORKS 1000 COMMONWEALTH AVENUE NEWTON CENTRE, MA 02459	
<b>PROJ MGR:</b> JRB	<b>REVIEWED BY:</b> HRJ	<b>CHECKED BY:</b> TEJ	<b>SHEET</b>
<b>DESIGNED BY:</b> JRB	<b>DRAWN BY:</b> EDM	<b>SCALE:</b> AS NOTED	<b>6</b>
<b>DATE:</b> MARCH, 2011	<b>PROJECT NO.</b> 15.0166230.00	<b>REVISION NO.</b> 3	

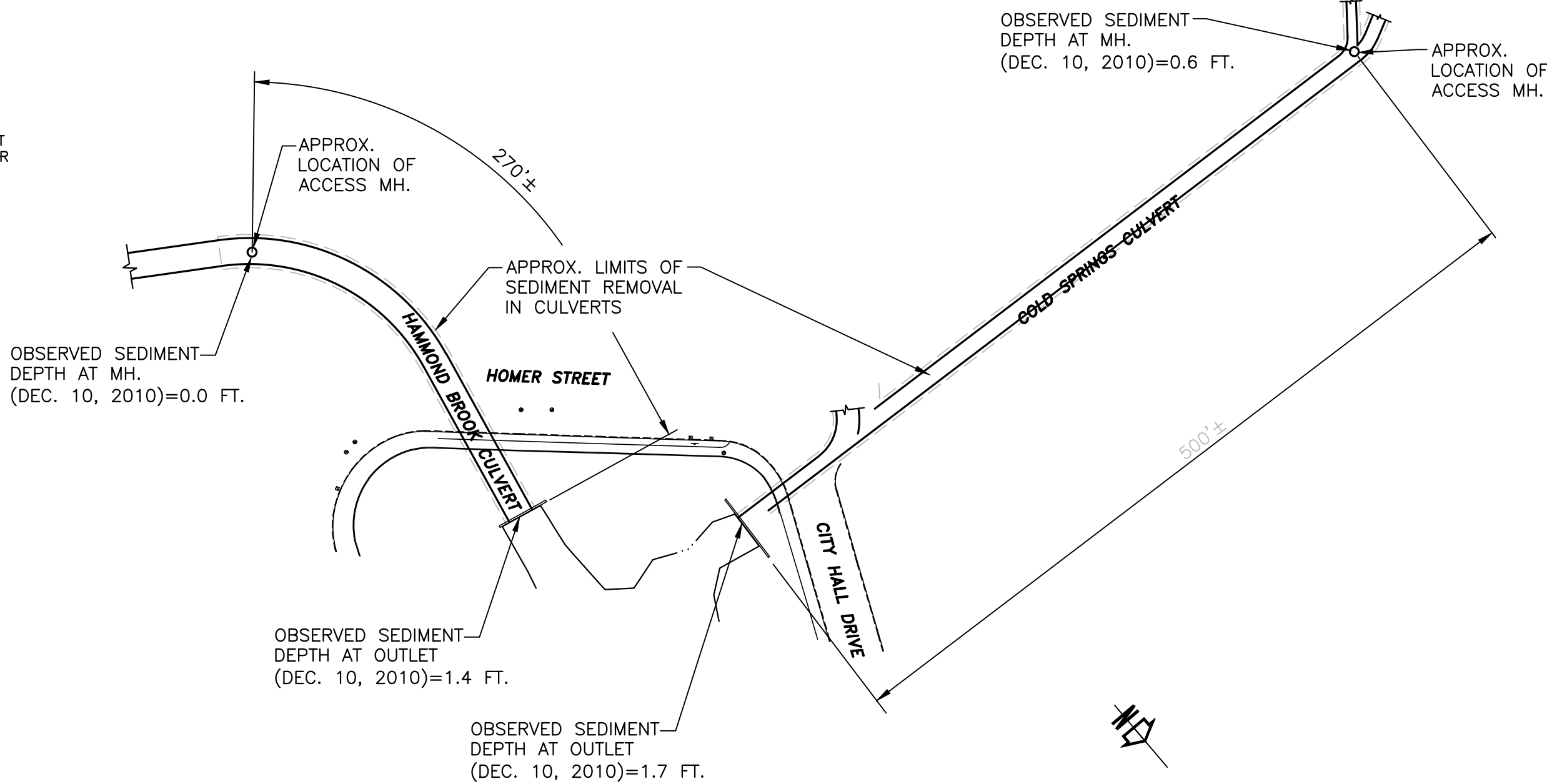


CULVERT CLEANING NOTES:

1. SEDIMENT MAY BE REMOVED FROM THE CULVERTS BY USE OF MECHANICAL EQUIPMENT, HAND LABOR, OR VACUUMING AS PROPOSED BY THE CONTRACTOR AND ACCEPTED.
2. CONTRACTOR SHALL CONDUCT A PRE-CONSTRUCTION EXISTING CONDITIONS SURVEY TO DETERMINE THE AMOUNT OF SEDIMENT PRESENT IN EACH CULVERT AND EXISTING CONDITIONS OF CULVERTS. CONTRACTOR SHALL ALSO REPORT ANY INCOMING STORM SEWERS OR DAMAGED SECTIONS OF THE CULVERTS.
3. CONSTRUCTION ACTIVITIES SHALL NOT DAMAGE THE INTERIOR OF THE CULVERTS. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE TO CULVERT AT NO ADDITIONAL COST TO THE OWNER.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROLLING FLOWS WITHIN THE CULVERTS DURING CONSTRUCTION ACTIVITIES. NO MATERIALS OR EQUIPMENT MAY REMAIN IN THE CULVERTS OVERNIGHT OR WHEN CONTRACTOR IS NOT ON SITE. ALL CULVERT WORK SHALL TAKE PLACE DURING DRY WEATHER PERIODS.

DATA SOURCES:

1. CULVERT LOCATION INFORMATION AND SLOPES TAKEN FROM PLANS ENTITLED "PROPOSED STREAM IMPROVEMENTS PIPE CONDUIT & CONCRETE CULVERT COLD SPRING & HAMMOND BROOK, NEWTON CENTER, NEWTON" PREPARED BY DEPARTMENT OF PUBLIC WORKS OF MASSACHUSETTS DIVISION OF WATERWAYS, DATED MARCH 1958.
2. APPROXIMATE ACCESS MANHOLE (MH) LOCATIONAL INFORMATION TAKEN FROM PLANS ENTITLED "PLANS FOR THE RESTORATION OF LAUNDRY BROOK DRAINAGE SYSTEM INCLUDING BULLOUGH'S AND CITY HALL PONDS AND COLD SPRING & HAMMOND BROOK CULVERTS" BY BEC, INC. DATED JANUARY 1992.
3. APPROXIMATE CULVERT SEDIMENT DEPTHS MEASURED BY GZA, INC. ON DECEMBER 10, 2010.

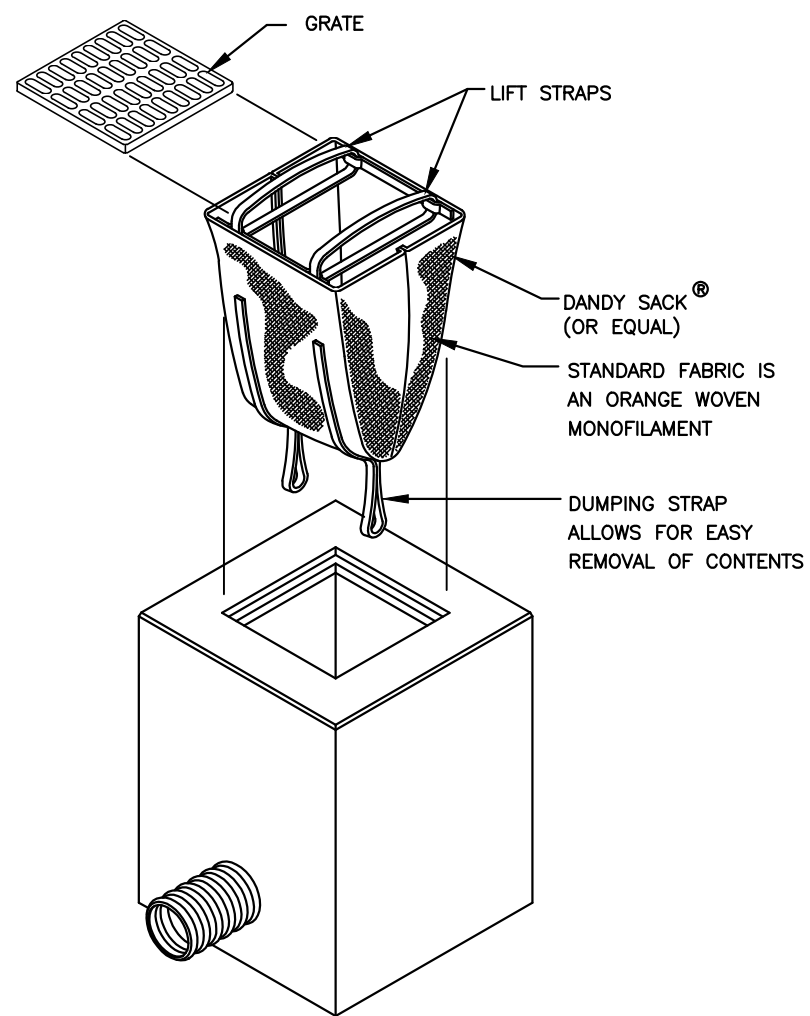


**A CULVERT CLEANING PLAN**  
1"=80'

**DANDY SACK® OR EQUAL**  
Installation and Maintenance Guidelines

Installation: Remove the grate from catch basin. If using optional oil absorbants, place absorbant pillow in unit. Stand the grate on end. Move the top lifting straps out of the way and place the grate into the Dandy Bag II so that the grate is below the top straps and above the lower straps. Holding the lifting devices, insert the grate into the inlet.

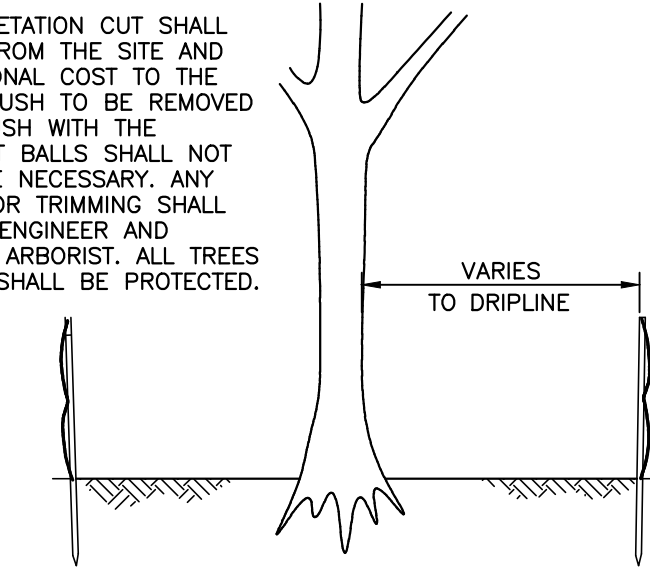
Maintenance: Remove all accumulated sediment and debris from vicinity to unit after each storm event. After each storm event and at regular intervals, look into the Dandy Bag II. If the containment area is more than 1/3 full of sediment, the unit must be emptied. To empty unit, lift the unit out of the inlet using the lifting straps and remove the grate. If using optional oil absorbants, replace absorbant when near saturation.



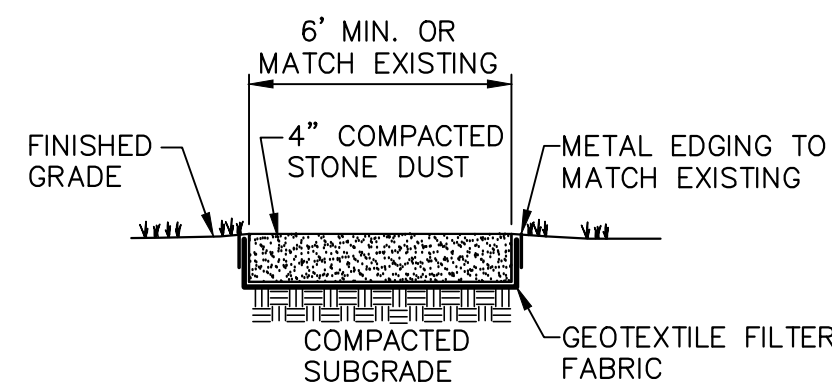
**D CATCH BASIN PROTECTION**  
NTS

ANY TREES AND OTHER VEGETATION CUT SHALL BE COMPLETELY REMOVED FROM THE SITE AND DISPOSED OF AT NO ADDITIONAL COST TO THE OWNER. ANY TREES OR BRUSH TO BE REMOVED SHALL BE CLEANLY CUT FLUSH WITH THE GROUND. STUMPS OR ROOT BALLS SHALL NOT BE REMOVED EXCEPT WHERE NECESSARY. ANY NECESSARY LIMB REMOVAL OR TRIMMING SHALL BE COORDINATED WITH THE ENGINEER AND COMPLETED BY A CERTIFIED ARBORIST. ALL TREES IN VICINITY OF WORK AREA SHALL BE PROTECTED.

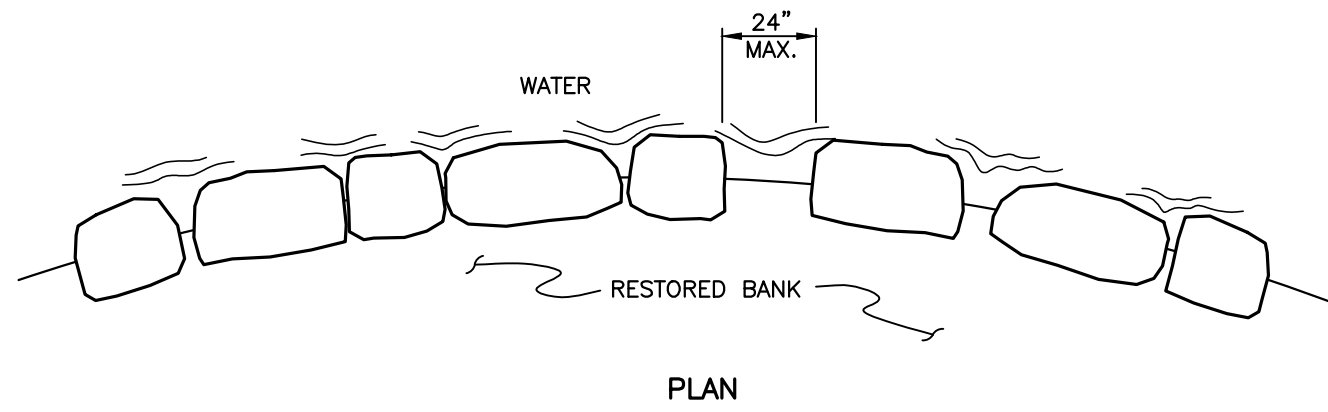
ENCIRCLE TREE WITH 4' HIGH PEDESTRIAN FENCING SET AT DRIPLINE.



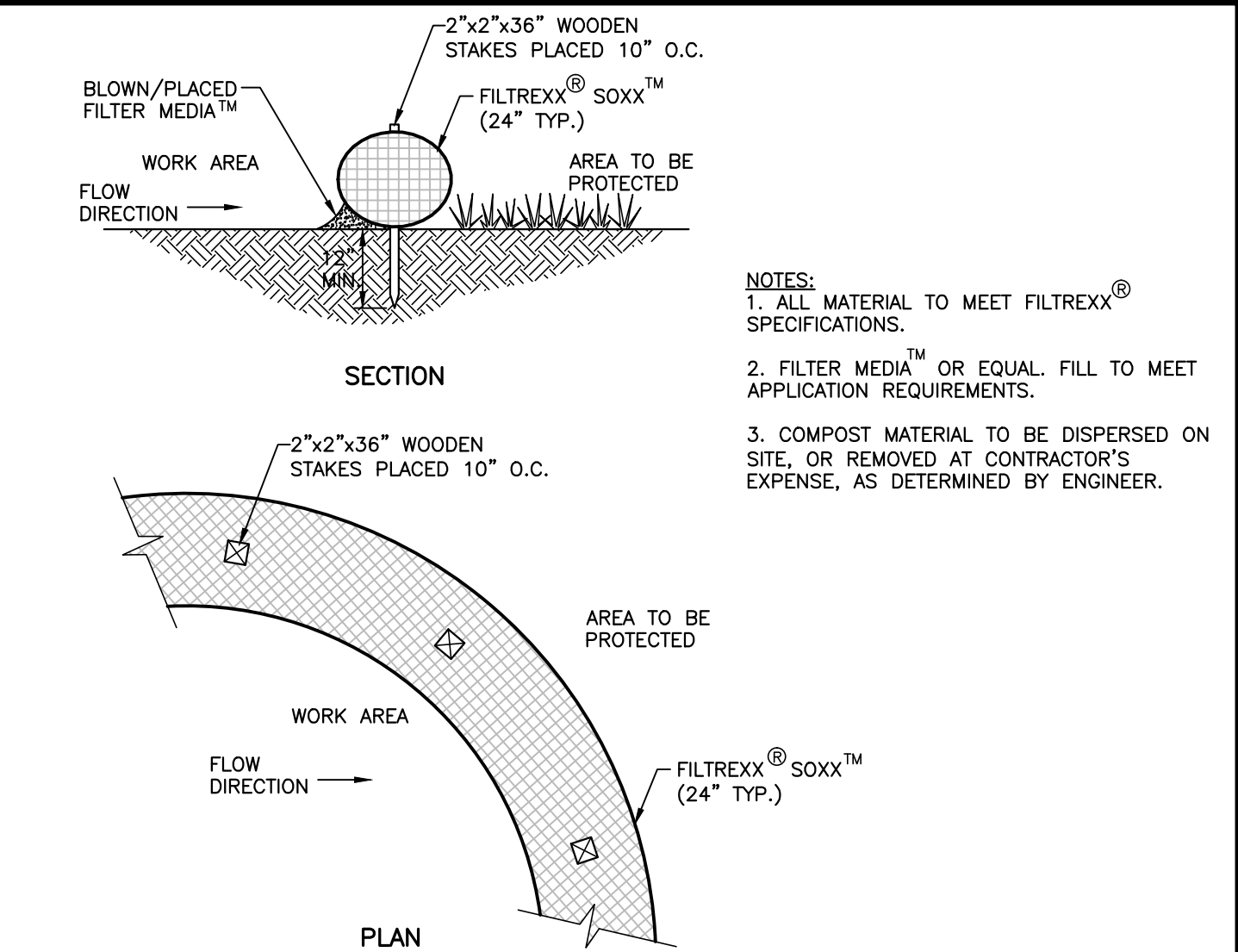
**E TREE PROTECTION**  
NTS



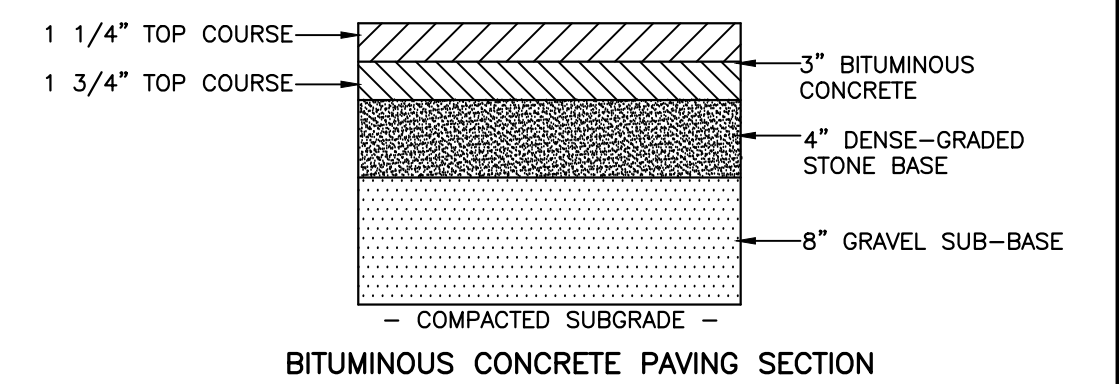
**F RE-INSTALL OR REPLACE EXISTING ALUMINUM EDGING**  
**STONE DUST WALK**  
NTS



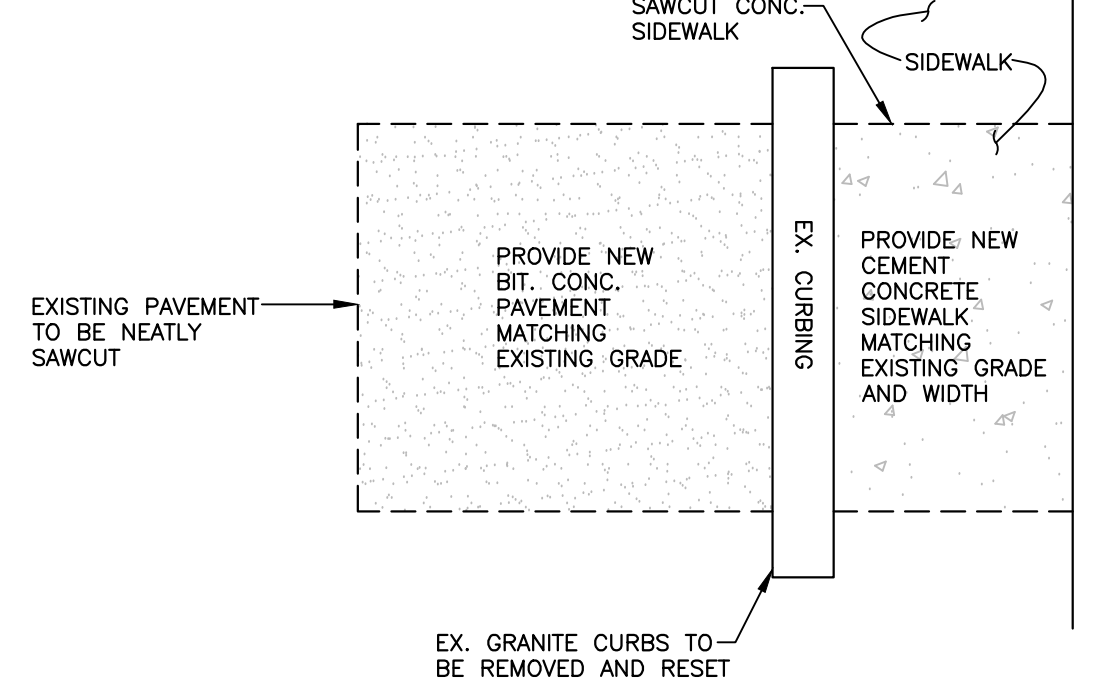
**G SECTION**  
**STONE BANK STABILIZATION DETAIL**  
**FOR DISTURBED ACCESS AREAS TO POND**  
NTS



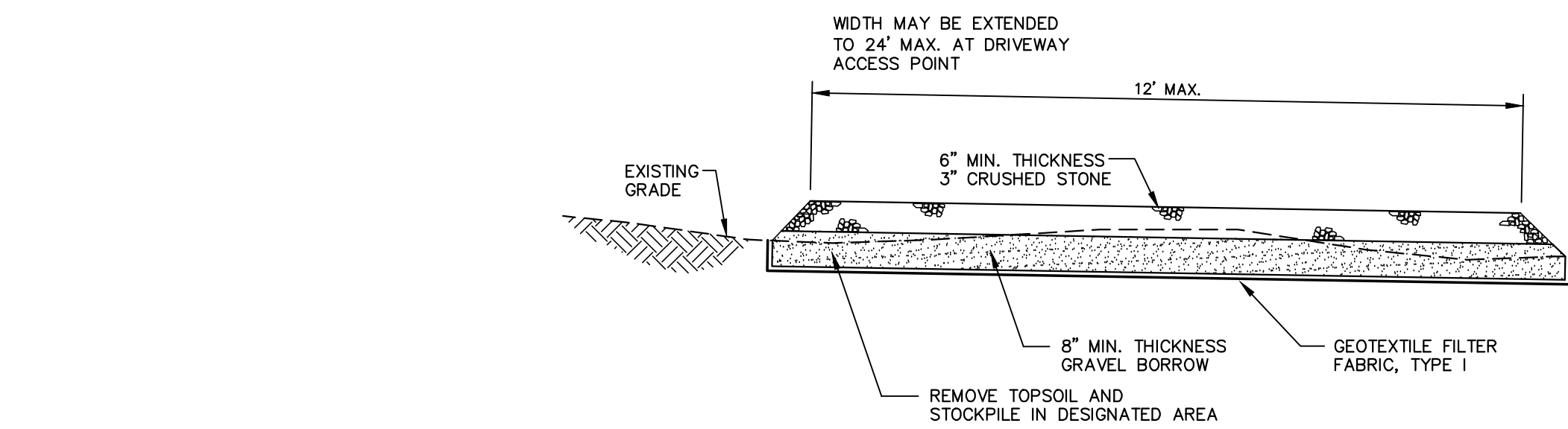
**C FILTREX SEDIMENT CONTROL (OR EQUAL)**  
NTS



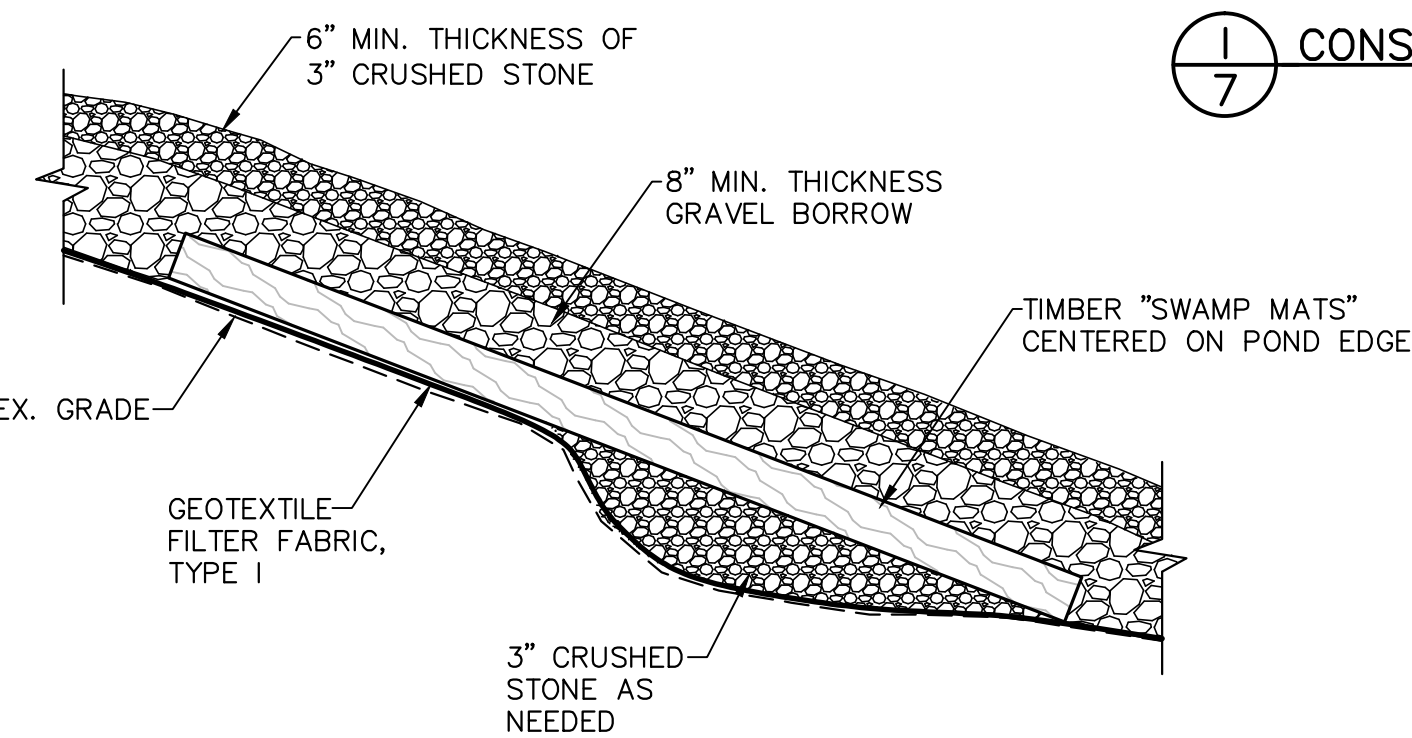
**BITUMINOUS CONCRETE PAVING SECTION**



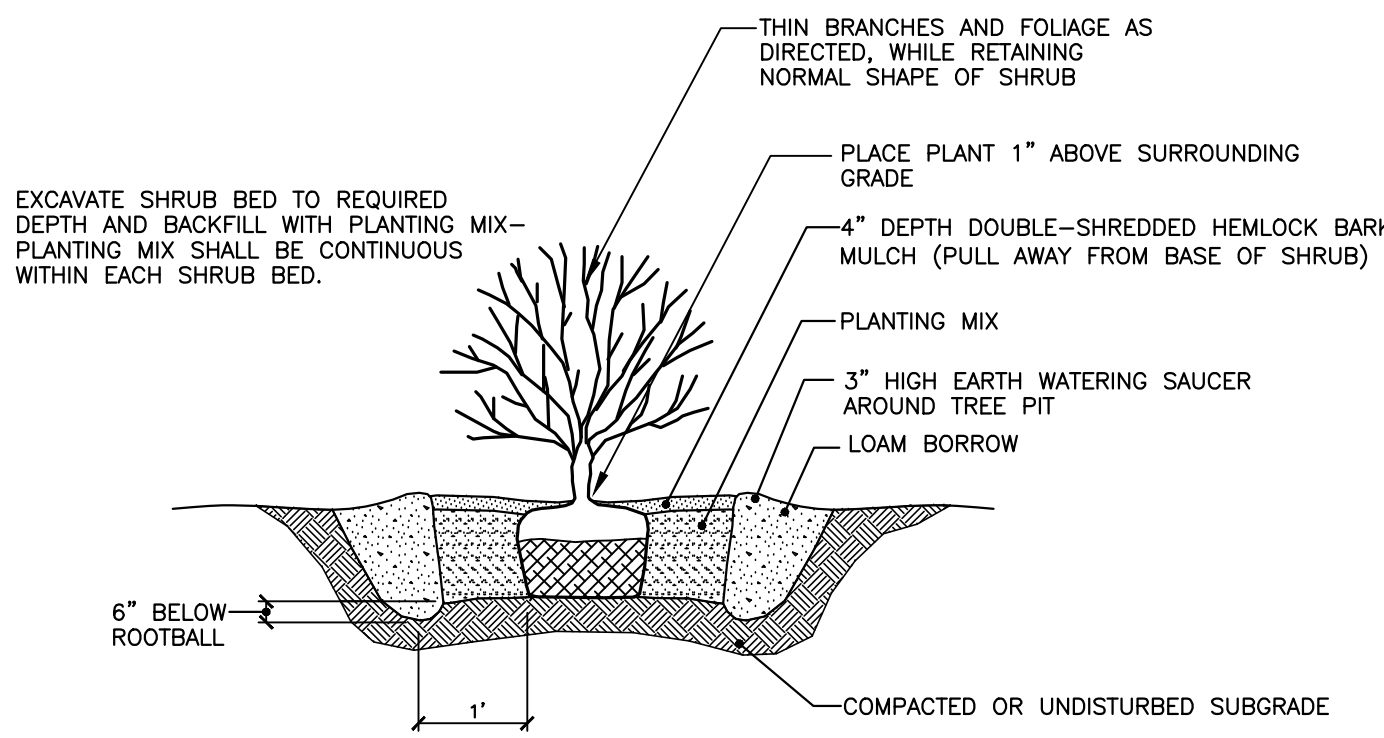
**H CEMENT CONCRETE SIDEWALK SECTION**  
**PAVEMENT RESTORATION DETAIL**  
NTS



**I CONSTRUCTION ACCESS ROAD TYPICAL SECTION**  
SCALE: N.T.S.



**J CONSTRUCTION ACCESS ROAD AT POND EDGE TYPICAL SECTION**  
NTS



**K SHRUB PLANTING DETAIL**  
NTS

PLANTING TABLE: BANK RESTORATION AREAS				
Layer	C. Name	S. Name	Type/Size	Planting Zone
Shrub	Shadblow	Amelanchier canadensis	2 gal.	3
	Gray Dogwood	Cornus racemosa	2 gal.	3
	American Hazelnut	Corylus americana	2 gal.	3
	Black Chokeberry	Aronia melanocarpa	2 gal.	3
	Northern Arrowwood	Viburnum dentatum	2 gal.	3

- NOTES:
1. SHRUBS TO BE PLANTED APPROXIMATELY 5 FEET ON CENTER. SEE SHRUB PLANTING DETAIL.
  2. ALL PLANTS TO BE DISTRIBUTED EVENLY AND RANDOMLY AMONGST THE THREE RESTORATION AREAS.
  3. AREA TO BE COVERED WITH DOUBLE-SHREDDED HEMLOCK BARK MULCH AFTER PLANTING.

**L PLANTING TABLE**

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4	ISSUED FOR CONSTRUCTION	EDM	9/29/11
3	RVSD. DETAIL E/7, K/7 & L/7	EDM	4/8/11
2	MISC. CHANGES PER MUNICIPAL REVIEW & COMMENT	EDM	3/23/11
1	ISSUED FOR WETLAND PERMITTING	EDM	3/8/11
NO.	ISSUE/DESCRIPTION	BY	DATE

**CULVERT CLEANING PLAN & DETAILS**

**SEDIMENT REMOVAL & MAINTENANCE OF CITY HALL PONDS NEWTON, MASSACHUSETTS**

PREPARED BY: GZA GeoEnvironmental, Inc. Engineers and Scientists ONE FINANCIAL PLAZA 1350 Main Street Suite 1400 Springfield, MA 01103 413-726-2100		PREPARED FOR: CITY OF NEWTON DEPARTMENT OF PUBLIC WORKS 1000 COMMONWEALTH AVENUE NEWTON CENTER, MA 02459	
PROJ MGR: JRB	REVIEWED BY: HRJ	CHECKED BY: TEJ	SHEET
DESIGNED BY: JRB	DRAWN BY: EDM	SCALE: AS NOTED	7
DATE: MARCH, 2011	PROJECT NO. 15.0166230.00	REVISION NO. 4	